

# Operation Research Major Assignment

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Department:- BS (SE) Section A

Subject :- Operation Research.

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Q2) :-

Let  $S_1$  and  $S_2$  be the number of products of A and B. The overtime operations will be

$$x_1 + x_2 + d_1^- - d_1^+ = 250$$

whereas  $d_1^-$  = under utilized of products.  
and  $d_1^+$  = overtime products.

Our main goal is to maximize sales, so no positive constraints will exist

$$\text{So, } \begin{aligned} x_1 + d_2^- &= 150 \\ x_2 + d_3^- &= 200 \end{aligned}$$

whereas  $d_2^-$  = under achieved sales goals (A)  
and  $d_3^-$  = Under achieved sales goals (B)

Mathematically,

$$Z = p_1 d_1^- + 2p_2 d_2^- + p_2 d_3^- + d_1^+$$

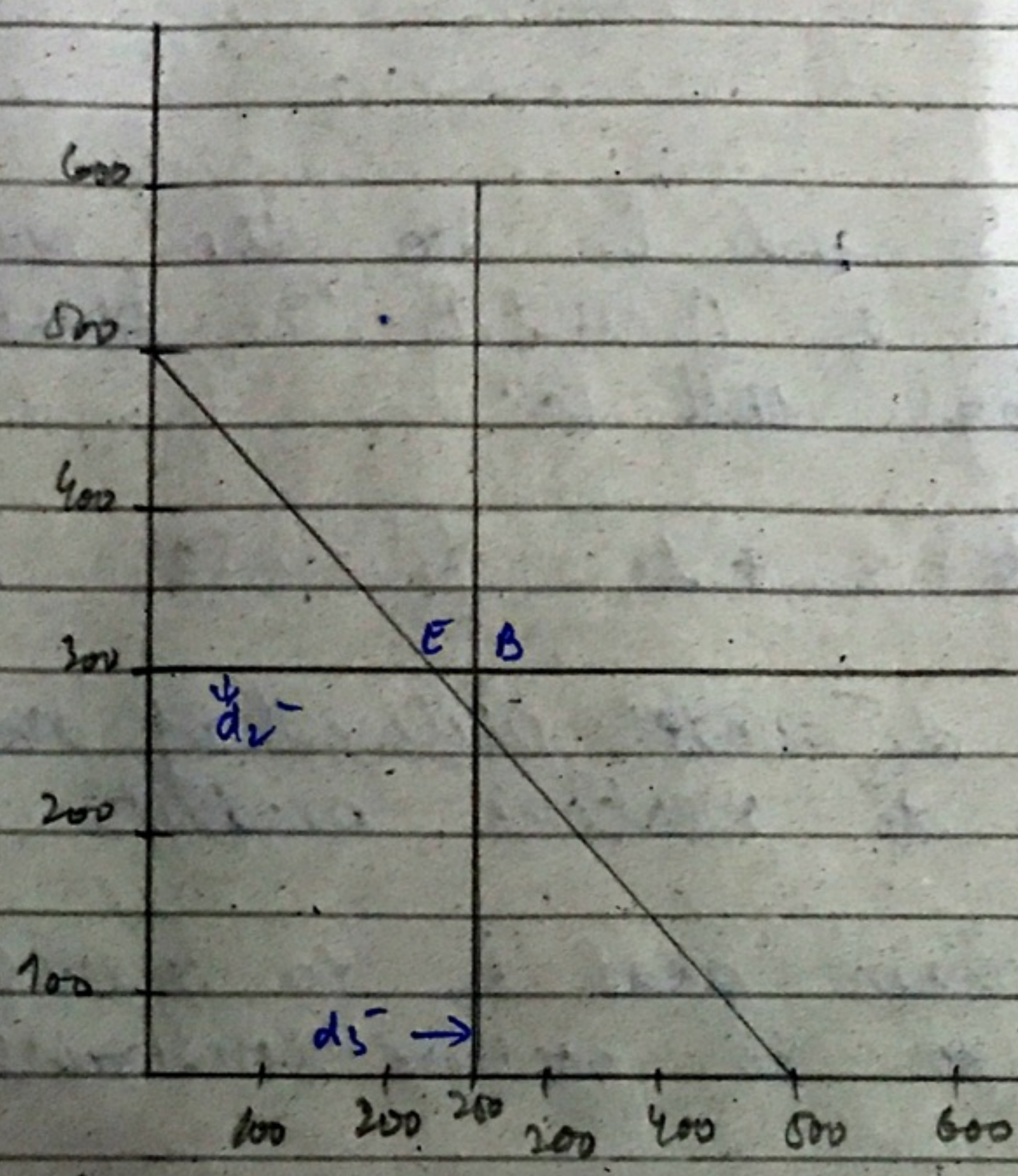
for constraints:-

$$S_1 + S_2 + d_1^- + d_1^+ = 500$$

$$x_1 + d_2^- = 150$$

$$x_2 + d_3^- = 200$$

$$x_1, x_2, x_3, d_2^-, d_3^-, d_1^+ \geq 0$$



Q3 Summary of the Research paper.

Summary:- The CPM (Critical Path Method) is a technique used to search out the longest path to perform activities that are required by cutting down that it takes for the completion of project, which ends in the creation of almost identical network of activities.